

## Abstract

5 There is disclosed a process and an array for assaying for binding of target molecules to capture molecules on microarray devices, wherein the mircoarray devices contain electrodes. Specifically, there is disclosed a binding (including nucleotide hybridization) process to detect binding on a microarray wherein the microarray contains electronically addressable electrode devices. There is further disclosed an enzymatically catalyzed oxidation/reduction reaction to take place within a "virtual flask" region of a microarray wherein the reaction is detected by current changes detected on the addressable electrode.